

CLOSEOUT FOR M91070030

This case involves two allegations of misconduct in science against Dr. [REDACTED] (the subject), a [REDACTED] citizen who was a visiting postdoctoral fellow in the laboratory of Dr. [REDACTED] (the complainant) at the University of [REDACTED] (the institution) from 1982 to 1984. The research in question was supported by the complainant's NSF Grant [REDACTED], entitled "[REDACTED]" After the subject completed his fellowship, he returned permanently to [REDACTED], where he is currently a scientist at the Institut [REDACTED]

While in the complainant's laboratory, the subject carried out two studies that are alleged to contain fabricated or falsified data. The first study was published as a paper [REDACTED] (the 1984 paper). The second study resulted in another paper [REDACTED] (the 1985 paper).

Alleged Fabrication in the 1984 Paper

In 1988 another researcher informed the complainant that he had obtained results in disagreement with those in the 1984 paper. The complainant promptly sent a sample of the compound analyzed in the complainant's laboratory to the other researcher. The other researcher's results obtained with that sample also disagreed with those in the 1984 paper. The complainant and the other researcher discovered a discrepancy between the data recorded in the subject's lab notebook and the original computer printouts when the other researcher visited the complainant's lab in 1990. Only then did the complainant write to the subject, alleging that much of the data in the subject's notebook did not come from the subject's computer printouts, and that no other computer printouts could have been the source of the data, because the log book showed that no other measurements were made. The complainant requested that the subject justify his numbers, and provide the necessary records. The subject replied that he did not have the [REDACTED] charts underlying the published results, but that they could be found in the complainant's laboratory.

A professor at the institution conducted an inquiry for the complainant's department. The professor concluded that the subject either "performed some undocumented operation on the 'raw data,' or . . . he invented the 'analyzed data' directly." His "general feeling is that [an undocumented operation] is more likely . . ." According to the professor,

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[T]o decide between dishonesty and carelessness, it would probably be necessary to bring [the subject] to [the institution] so that he can study the records and explain exactly how he produced the reported results.

The institution conducted an investigation without the subject present. The investigation found that,

[b]ased on the facts presented to the panel, an independent analysis of the raw data by [the professor] and in the absence of any evidence to the contrary, the panel upheld the allegation that scientific misconduct did occur.

The panel's conclusion was based totally on the absence of computer printouts supporting the published data. Although nominally incorporating the findings of the professor's inquiry, the investigation report did not address the professor's analysis or present a new analysis of the relevant data and materials. The investigation report nonetheless reached a conclusion contrary to the professor's.

Alleged Falsification of Data in the 1985 Paper

In March 1992, the complainant made a second allegation of misconduct against the subject to the Associate Vice President for Research and Development. He alleged that the subject had falsified data in the 1985 paper by altering the data to make it fit a straight line. He claimed to have all of the original records necessary to prove this. An inquiry was conducted by a second professor at the institution. The professor noted that

In [certain] printouts the . . . [REDACTED] listed in Table V [of the 1985 paper] appear ordered by temperature, which is different from their order in the paper, but with otherwise identical values.

The professor's subsequent examination of the data was "not exhaustive but rather in the nature of a random spot check." He found that some of the published data corresponded to that in the printouts, but some had been changed as much as 30% or even 45%, apparently to make the data fit a straight line with minimal scatter.

The institution assembled a second investigation panel. The subject was not present at the meeting of the investigation panel. The investigation report sets out no analysis of the data relevant to the allegation, but rather states:

The panel listened to a 30+ minute presentation from [the complainant], who provided further insight as to why and how he concluded that [the subject] had altered the experimental data. . . . [The professor] . . . next testified as to what

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he had discovered during the several weeks he independently carried out an informal inquiry . . .

The panel could find no motive for the subject to alter the data to fit a straight line when the original data was of greater interest and could provide "clues to the chemistry involved in the system." Nevertheless, it concluded that the subject

furtively altered the data and . . . is also guilty of willful scientific deception and dishonesty. . . . Perhaps, [the subject's] absence, which raises questions as to whether he even cares, is, sadly, the loudest testimony of all in this case.

OIG's Review of the Institution's Inquiries and Investigations

OIG reviewed the institution's inquiry reports and investigation reports and found that they were contradictory and did not present sufficient supporting evidence or analysis to back up their conclusions. OIG requested that the institution send copies of all data and analyses that were conducted to reach the conclusion that the original and published data did not match, and a composite graph showing the discrepancies between the original and published data. OIG also requested copies of all communications from the subject, and correspondence from the complainant to the subject.

In response to OIG's request, the institution sent copies of some pages from the subject's notebook, copies of some computer printouts, copies of some pages from the log book, and copies of pages from a lab diary from the complainant. The institution provided no useful guidance on how to interpret these materials, and no composite graph or other completed analysis explaining how it reached its conclusions. Although the institution supplied a large amount of material relating to both allegations, the materials are nevertheless incomplete, since some of the records referred to in the inquiry and investigation reports were not sent by the institution. Conversely, some of the data sent is not discussed in the inquiry or investigation reports. Even though the complainant claimed that with regard to the second allegation, all original printouts and notebook entries were available, the institution sent notebook pages with no matching printouts. Furthermore, the only other "analysis" sent by the institution consisted of handwritten entries by the complainant into a lab diary. It contained passages concerning the allegations against the subject mixed with irrelevant passages dealing with other laboratory business, and no analyses beyond those presented in the inquiry and investigation reports.

The correspondence sent by the institution explained the subject's position. In regard to the first allegation, the subject explained where the published data could be found in his notebook, but did not provide information on the computer printouts from which the data might have been derived. The subject stated, "I haven't the computer printouts, they should be in the laboratory [at the institution]." The subject further admitted that, "I to admit that my notebooks

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and recording the results was very poorly [sic]." In regard to the second allegation, the subject explained that

The results . . . were checked and discussed at least three times a week. . . . After finishing the paper I was not able to recall the entire process of the calculations, let alone now after so many years.

The subject claimed that letters sent by the institution often took months to reach him, went to the wrong location, and left him little time to reply. He also explained that both he and his daughter had serious health problems. Further, there were two reasons he could not come to the meeting of the first investigation panel. "First one is financial difficulties and the second one is still tragically situation with our daughter[.]" In regard to the second allegation, the subject stated that, "I am convinced that whatever steps I took would not affect the course of the matter."

OIG had an expert in the field review the material supplied by the institution. The expert stated:

Most documents supporting allegations are either incomplete or they have been presented in a sloppy fashion. . . . [T]here is no step-by-step, type-written explanation for deciphering this information. In short, the [institution] expects NSF to extract useful information from a pile of poorly written reports/notes by [the subject], [the complainant], or other members of this research group.

OIG concluded that the institution had not performed a fair or adequate investigation into these allegations. The institution did not explain the relevance of the material it supplied or present an adequate analysis of its conclusions. In cases like this OIG usually proceeds with its own investigation to determine if action is needed to protect NSF interests. However, OIG decided not to undertake an investigation in this case. The subject resides in a foreign country and communications have proven extremely difficult. The research was performed 10-12 years ago, key records are missing, and much of the existing data were indecipherable, even to our expert. In light of the fact that NSF rarely makes awards to foreign researchers, OIG believes that the government's interest are not at risk, and that its limited resources should not be spent on further examination of this case. Thus, OIG closed this case.

cc: Staff Scientist, Deputy AIG-Oversight, AIG-Oversight, IG